

### **ABSTRACT OF THE DISCLOSURE**

The present invention relates to a method of treating a disorder mediated by soluble adenylyl cyclase in a subject. The method involves administering to a subject an effective amount of a compound disclosed herein that modulates soluble adenylyl cyclase, under conditions effective to treat the disorder mediated by soluble adenylyl cyclase. The present invention also relates to a method of treating a disorder mediated by soluble adenylyl cyclase in a subject, where the disorder is selected from the group consisting of: learning or memory disorders, malaria, fungal infection, spinal cord injury, Alzheimer's disease, amyotrophic lateral sclerosis, and peripheral neuropathy. The method involves modulating soluble adenylyl cyclase in the subject. Another aspect of the present invention relates to a method of modulating soluble adenylyl cyclase. The method involves contacting eukaryotic cells with a compound that modulates soluble adenylyl cyclase, under conditions effective to modulate soluble adenylyl cyclase.